

REMARKS

Applicant respectfully requests favorable reconsideration and allowance of this application.

With the entry of the foregoing claim amendments and new claims, claims 8-16, 26-27 and 34-37 are now pending in this application. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached pages are captioned **"Version With Markings To Show Changes Made."** These pages also show the title and specification amendments, which were requested by the examiner and/or correct typographical errors. No new matter has been added by these amendments, including new claims 34-37 that are supported by the originally filed claims 8, 26-27 and the specification.

Turning to the Official Action, paragraph number 1 on page 2 of the Official Action notes that the Information Disclosure Statements filed on May 30, 2001 and August 10, 2001, have been considered and placed in the application file. Applicant respectfully requests that the examiner initial the PTO-1449 forms submitted with those Information Disclosure Statements. For the convenience of the examiner, additional copies of those PTO-1449 forms are attached.

In paragraph number 2 on page 2 of the Official Action, the examiner notes the applicant's election of the Group II claims in view of the restriction requirement that confirmed the inventions of the other claim groups were patentably distinct. As a result, applicant hereby withdraws claims 1-7, 17-25 and 28-33 without prejudice and reserves the right to file divisional applications for these patentably distinct inventions.

Paragraphs 3 and 4 on page 2 of the Official Action reject claims 8-16, 26 and 27 under 35 U.S.C. 112, second paragraph, as allegedly being indefinite. In response, and although applicant does not necessarily agree with the indefiniteness position set forth in the Official

Action, claims 8-16, 26 and 27 have been amended to clarify the claimed invention and without restricting the claimed invention. Applicant submits that the amended claims are definite and, therefore, requests the withdrawal of the rejection.

Paragraphs 5 - 7 on page 3 of the Official Action reject claims 8-16, 26 and 27 under 35 U.S.C. 102(b) and 103(a) as being anticipated by or obvious over Magat (the '385 patent), Yoshida (the '875 patent) or Liao (the '318 patent). Applicant respectfully requests the withdrawal of this rejection for the following reasons.

The present invention relates to a coating composition for the chemical grafting of an oil, fuel, coolant or air filter material. Aside from this language being present in each of the claims, each of the claims specifically require the presence of a graft initiator. The three cited references do not disclose or suggest coating compositions for the chemical grafting of an oil, fuel, coolant or air filter material. Moreover, the three cited references do not disclose or suggest any composition comprising a graft initiator. In fact, as demonstrated below, the cited references teach away from the presently claimed invention.

The cited '385 patent discloses "radiation grafting." Radiation grafting is completely different than chemical grafting. Radiation grafting uses ionizing radiation, which is an expensive process that utilizes high energy. In contrast, the claimed invention uses chemical grafting and relies on a graft initiator. This is a relatively inexpensive process that occurs at ambient conditions -- completely unlike the radiation grafting process of the '385 patent. Thus, '385 patent neither anticipates nor renders obvious the claimed invention, and actually teaches away from the claimed invention.

The cited '318 patent discloses graft copolymers for de-inking. These compositions are not chemically grafted compositions. Instead, these compositions are made by way of a two step

process using cationic monomers. No graft initiators are used. In contrast, the claimed invention concerns chemical grafting and requires graft initiators. Thus, the '318 patent does not disclose or render obvious the claimed invention, and actually teaches away from the claimed invention and its employment of a graft initiator.

The cited '875 patent relates to a transferring dye for printing. It does not involve chemical grafting, nor does it involve the use of a graft initiator. In fact, the chemical grafting objective of the claimed invention is contrary to the objective of transferring dye for printing. Thus, the '875 patent does not disclose or render obvious the claimed invention, and actually teaches away from the claimed invention and the objective of the claimed invention.

For the foregoing reasons, the three cited references neither disclose nor suggest the claimed chemical grafting composition and its required graft initiator. Moreover, there is no suggestion in these three cited references to combine them in some fashion and arrive at the presently claimed invention. As a result, applicant respectfully requests the withdrawal of the Section 102 and 103 rejections.


In view of the foregoing amendments and remarks, applicant respectfully submits that all pending claims are in condition for allowance, and earnestly solicits a notice to that effect. If the examiner has any questions concerning this case, the undersigned may be contacted at 703-816-4009.

SANDUJA, et al
Serial No. 09/844,709

Respectfully submitted,

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By: _____


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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE TITLE

Please delete the current title, and substitute the following new title:

-- COATING COMPOSITION FOR CHEMICAL GRAFTING --

IN THE SPECIFICATION

Please substitute the following paragraphs in the specification for corresponding paragraphs previously presented. A copy of the amended specification paragraphs showing current revisions is attached.

Please replace the paragraph beginning at page 10, line 1, with the following rewritten paragraph:

The graft initiator may consist of the metal ions system Fe^{+++} , Fe^{++} , Ag^+ , Co^{++} or Cu^{++} . The peroxide should be chosen from the water soluble catalysts such as hydrogen peroxide, urea peroxide, ammonium persulfate, potassium persulfate and/or sodium [metabisulfate] metabisulfite. The monomers and prepolymers have side functional groups X, which may react between themselves and with additional prepolymers included into the formulation, forming a graft cross-linked organic coating. The functional groups of the monomers and prepolymers should consist of hydroxyl groups, carboxyl groups, secondary and/or tertiary amino groups. The molecular ratio of the functional groups of the reactive components are so adjusted that no free groups are left after the reaction is over. The physical and chemical properties of the prepolymers and monomers included in the formulation have been selected so that, when grafted onto the cotton fabric, they impart high temperature resistance, chemical resistance, non-leaching

properties, and increased filtration efficiency for removal of carbon, soot, silica, metal particles and other contaminants from, for example, oil in an oil filtration system.

Please replace the paragraphs appearing in **Example 1** at page 10, line 20, through page 11, line 11, with the following rewritten paragraphs:

Example 1

<u>Formulation</u>		
<u>Ingredients</u>		<u>Parts By Weight</u>
Freetex 695 – polyacrylamide polymer	- 1.5	
Hot water (80°C)	- 98.5	0.1
Troysan polyphase AF-1 (bacteriacide)	- 0.1	
Deionized water (DIW)		34.5
Mono 2-acrylamido-2-methyl propane sulfonic acid salt 50% aqueous solution (AMPS 2403)		40.0
Isopropyl alcohol (IPA)		37.5
Monomer HEMA – 2-hydroxy ethyl methacrylate		10.5
Ammonium persulfate (10% solution)		1.0
Sodium [metabisulfate] <u>metabisulfite</u> (10% solution)		1.0
Hydrogen peroxide (0.1% solution)		0.01
Silver nitrate (0.1% solution)		0.01

Please replace the paragraphs appearing in **Example 4** at page 14, line 14, through page 15, line 6, with the following rewritten paragraphs:

Example 4

Formulation

<u>Ingredients</u>	<u>Parts By Weight</u>
AMPS 2403 Monomer (50% aqueous solution)	30.0
IPA	25.0
DIW	23.0
HEMA (97% solution)	7.0
10% ammonium persulfate	1.0
10% sodium [metabisulfate] <u>metabisulfite</u>	1.0
Freetex 695 (wet with methanol) - 1.5	
Hot water (80 degrees C) - 98.5	
dissolve Freetex and hot water with agitation,	0.1
cool down and add:	
Troysan Polyphase AF-1 - 0.1	

Please replace the paragraph appearing at page 19, line 21, through page 20, line 10, with the following rewritten paragraph:

In another example of a coating system, a formulation may be utilized comprising about less than 1% by weight (e.g., about 0.08%) of a polyacrylamide prepolymer dissolved in hot water (between 60-100°C) with a bacteriacide added thereto, about 20-40% (e.g., about 28%) deionized, distilled or otherwise pure water, about 20-40% (e.g., about 32%) mono 2-acrylamido-2-methyl propane sulfonic acid salt 50% aqueous solution, about 20-40% (e.g., about 30%) solvent such as isopropyl alcohol, about 4-15% (e.g., about 8%) monomer ester such as 2-

hydroxy ethyl methacrylate, about less than 2% (e.g., about 0.8%) of a catalyst such as ammonium persulfate (10% solution), about less than 2% (e.g., about 0.8%) of a catalyst such as sodium [metabisulfate] metabisulfite (10% solution), about less than 2% (e.g., about 0.008%) of a catalyst such as hydrogen peroxide (0.1% solution), and about less than 2% (e.g., about 0.008%) of a graft initiator such as silver nitrate (0.1% solution). Curing is preferred, typically at a temperature of between about 100-130°C, but low enough so as not to adversely affect the fibers being treated.

On Page 14 (which is part of Example 3), please replace line 3 from the top of the page with the following rewritten line:

--Ammonium persulfate 14% in water (adjust pH to 8.0-8.5) 1.0

IN THE CLAIMS

Please substitute the following amended claims for corresponding claims previously presented. A copy of the amended claims showing current revisions is attached.

8. (Amended) A coating composition for the chemical grafting of an oil, fuel, coolant or air filter material, the composition comprises, based on the total weight of the coating composition:

about 20-40% by weight of a monomer,

about 20-40 % by weight of isopropyl alcohol,

about 20-40 % by weight of deionized, distilled or otherwise pure water,

about 4-15 % by weight of an ester,

[about] less than about 4% by weight of a catalyst, and

[about less than 1% by weight of] a graft initiator.

9. (Amended) The composition according to claim 8, which further comprises [about] less than about 0.5 % by weight of a prepolymer.

14. (Amended) The composition according to claim 8, wherein the catalyst is at least one selected from the group consisting of hydrogen peroxide, urea peroxide, ammonium persulfate, potassium persulfate, sodium [metabisulfate] metabisulfite and mixtures thereof.

15. (Amended) The composition according to claim 9, which further comprises [about] less than about 0.5 % by weight of a bacteriacide.

26. (Amended) A coating composition for the chemical grafting of an oil, fuel, coolant or air filter material, the composition comprises, based on the total weight of the coating composition:

[about] less than about 1% by weight of a polyacrylamide prepolymer,
about 20-40% by weight of deionized, distilled or otherwise pure water,
about 20-40% by weight of mono 2-acrylamido-2-methyl propane sulfonic acid salt, 50% aqueous solution,
about 20-40% by weight of an alcohol-based solvent,
about 4-15% by weight of [a] an ester monomer [ester],
[about] less than about 6% by weight of a catalyst, and
[about less than 2% by weight of] a graft initiator.

27. (Amended) A coating composition for the chemical grafting of an oil, fuel, coolant or air filter material, the composition comprises, based on the total weight of the coating composition:

[about] less than about 1% by weight of a polyacrylamide prepolymer,
about 20-40% by weight deionized, distilled or otherwise pure water,
about 20-40% by weight mono 2-acrylamido-2-methyl propane sulfonic acid salt, 50% aqueous solution,
about 20-40% by weight isopropyl alcohol,
about 4-15% by weight 2-hydroxy ethyl methacrylate,
[about] less than about 6% by weight of a catalyst, wherein the catalyst is at least one selected from the group consisting of ammonium persulfate, sodium [metabisulfate] metabisulfite, hydrogen peroxide, and mixtures thereof, and
[about less than 2% by weight silver nitrate] a graft initiator.

Kindly add the following new claims:

--34. (New) The composition according to claim 8, wherein the graft initiator is in an amount of less than about 1% by weight.

35. (New) The composition according to claim 26, wherein the graft initiator is in an amount of less than about 2% by weight.

36. (New) The composition according to claim 27, wherein the graft initiator is in an amount of less than about 2% by weight.

37. (New) The composition according to claim 27, wherein the graft initiator is silver nitrate. --

Please cancel claims 1-7, 17-25 and 28-33 without prejudice to applicant's filing divisional applications -- in view of the UPSTO's restriction requirement.